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09/682,033	07/12/2001	Hosagrahar Somashekhar	YOTTA1260	6139

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EXAMINER	
ABELSON, RONALD B	
ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,033	SOMASHEKHAR ET AL.	
	Examin r	Art Unit	
	Ronald Abelson	2666	

-- The MAILING DATE of this communication appears on the cover she t with the correspond nce address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-8, 10 - 15, 23, and 26-33* is/are rejected.

7)☒ Claim(s) *4,9,16-22,24,25 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

1. Claim 27, objected to because of the following informalities: In line 3 "multiplexer" should be changed to "demultiplexer". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5, 6, 8, 10 - 15, 23, 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antosik (US 6,822,975) in view of Sherman (US 6,457,080).

Regarding claims 1, 10, 12, and 30, Antosik teaches a system for transporting a plurality of low-bit-rate data signals (fig. 1 elements 114) over a high-bit-rate data line (fig. 1 line 106).

Antosik teaches a transmission medium (fig. 1 element 106) coupled to a multiplexer (fig. 1 box 122) and configured to transport the high-bit-rate data signal (fig. 1 line 106: note this is a OC48 signal).

Antosik teaches a demultiplexer (fig. 1 box 114) coupled to the transmission medium (fig. 1 line 106) configured to general a plurality of low-bit-rate output signals (fig. 1 elements 116) which are substantially identical to the corresponding low-bit-rate input data signals (fig. 1 elements 114). Note correspondence in data rates between the input and output signals 114 and 116).

Antosik is silent on mapping a payload of each low-but-rate input data signal to a payload of a high-bit-rate data signal, to map overhead of each low-bit-rate input data signal to unused overhead of the high-bit-rate data signal, and to map timing data for each low-bit-rate input data signal to the unused overhead of the high-bit-rate data signal.

Antosik is silent on extracting the payload, overhead data and timing data corresponding to each low-bit-rate input data signal from the high-bit-rate data signal and to generate a plurality of low-bit-rate output data signals.

Sherman teaches mapping a payload of each low-but-rate input data signal (fig. 2 box STS-1 #n VT 1.5) to a payload of a

high-bit-rate data signal (fig. 2 box 98), to map overhead of each low-bit-rate input data signal (fig. 2 STS-1 #n: C1, J1) to unused overhead of the high-bit-rate data signal (fig. 2 STS-3 C1, J1), and to map timing data for each low-bit-rate input data signal (fig. 2 STS-1 #n A1, A2, col. 4 lines 8-13) to the unused overhead of the high-bit-rate data signal (fig. 2 STS-3 A1, A2).

Sherman teaches extracting the payload, overhead data and timing data (fig. 2 box STS-3) corresponding to each low-bit-rate input data signal from the high-bit-rate data signal and to generate a plurality of low-bit-rate output data signals (fig. 2 box STS-1 #1-3). Note, the mapping is bi-directional (col. 4 lines 45-50, lines 30-33).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Antosik by implementing the interleaving algorithm of Sherman (fig. 2, col. 4 lines 45-50) in the multiplexer of Antosik and the de-interleaving algorithm of Sherman (fig. 2) in the demultiplexer of Antosik. This modification can be performed according to the teachings of Sherman. This would improve the system by providing a mapping between the low-bit-rate and high-bit-rate data signals.

Regarding claims 2, 11, 23, constructing the plurality of output client data signals (Antosik fig. 1 elements 116, Sherman: fig. 2 STS-1 #1-3), which have bit sequences (Sherman: fig. 2 STS-1 #1-3 VT1.5 #1-28) and timing (Sherman: fig. 2 STS-1 #1-3 A1, A2) substantially identical to the plurality of input cline data signals. As previously stated, the mapping in Sherman is bi-directional. Therefore, the mapping in Sherman from STS-1 to STS-3 would occur at the multiplexer of Antosik (fig. 1 box 122) and the mapping in Sherman from STS-3 to STS-1 would occur at the demultiplexer of Antosik (fig. 1 box 144).

Regarding claims 3 and 8, generating the timing data for each of the plurality of input client data signals (Sherman: fig. 2 box STS-1 #1-3 A1, A2) and constructing the corresponding output client data signals. As stated previously, the mapping is bi-directional (Sherman: col. 4 lines 45-50, lines 30-33).

Regarding claim 5, transporting the server signal comprises transmitting the server signal over a high-bit-rate server span (Antosik: fig. 1 line 106).

Regarding claim 6, 28, and 32, the input client data signal, output client data signals and server signal comprise SONET signal (Antosik: col. 1 lines 59-62).

Regarding claims 13, 14, see limitations previously addressed in claim 30.

Regarding claim 15, the demultiplexer comprises one or more egress modules configured to generate each low-bit-rate input data signal according to the corresponding timing data. As previously stated, Sherman teaches the A1 and A2 bits are used for synchronization (col. 4 lines 8-15) and the mapping is bi-directional (col. 4 lines 45-50, lines 30-33).

Regarding claim 26, see limitations previously addressed in claim 30.

Regarding claims 27 and 31, the transmission medium comprises an optical network (Antosik: fig. 2, col. 1 lines 59-62), wherein the multiplexer (fig. 1 box 228) is configured to generate the high-bit-rate data in an optical form (fig. 2 line 210), and wherein the demultiplexer (fig. 2 box 220) is

configured to receive the high-bit rate data signal in an optical form (fig. 2 line 210).

Regarding claim 29 and 33, the transmission medium comprises an electrical transmission network (Antosik: col. 3 lines 2-4).

4. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Antosik and Sherman as applied to claim 6 above, and further in view of de Boer (US 6,616,350).

Although the combination teaches OC-48 Sonet, the combination is silent on the input client data signals and output client data signals comprise OC-48 Sonet signals and the server signal comprises an OC-192 Sonet signal.

de Boer teaches the input client data signals and output client data signals comprise OC-48 Sonet signals and the server signal comprises an OC-192 Sonet signal (fig. 1, col. 6 line 45 - col. 7 line 5).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination of Antosik and Sherman inputting OC-48 signals into the Mux (Antosik: fig. 1 box 122) for conversion into an OC-192 signal

to be transported across the server signal (Antosik: fig. 1 line 106) and to be demodulated back into OC-48 by the Demux (Antosik: fig. 1 box 144). Following the teachings of De Boer can perform this modification. This would improve the system by allowing the system to transport higher rate OC-192 signals.

Allowable Subject Matter

5. Claims 4, 9, 16-22, 24 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 4, 9, nothing in the prior art of the record teaches or fairly suggests generating the client timing data by counting bits, in view of the teachings of the in combination of Antosik and Sherman.

Regarding claim 16 nothing in the prior art of the record teaches or fairly suggests a PLL and counter, in view of the teachings of the in combination of Antosik and Sherman.

Regarding claim 19 nothing in the prior art of the record teaches or fairly suggests the ingress modules configured to

generate timing data, in view of the teachings of the in combination of Antosik and Sherman.

Regarding claims 24, 25 nothing in the prior art of the record teaches or fairly suggests overhead data of the at least one of the low-bit-rate output data signals is different from overhead data of the corresponding one of the low-bit-rate input data signals, in view of the teachings of the in combination of Antosik and Sherman.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RA

Ronald Abelson
Examiner
Art Unit 2666

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